

the 15 former republics. Since 1991 Zabelin has been the chief assistant to Alexei Yablokov, advisor to Boris Yeltsin on ecology and health, working to draft environmental legislation to prevent exploitation of Russia's natural resources as the nation opens its borders to corporations from around the world.

North America: JoAnn Tall. Though suffering from debilitating rheumatoid arthritis, Tall has spent years working from the Pine Ridge Reservation in South Dakota to organize Native American people to prevent environmental abuses by corporations and governments on tribal lands. Tall co-founded the Native Resource Coalition in 1989 to educate indigenous communities about environmental threats. Some of her successful efforts include stopping nuclear weapons testing in the Black Hills and preventing location of a hazardous waste site on the Pine Ridge and Rosebud Reservations.

Africa: Garth Owen-Smith and Margaret Jacobsohn. Working from a remote area of newly independent Namibia known as "World's End," Smith and Jacobsohn have devised and implemented a unique two-way conservation system to combat poaching of black rhino and desert elephant populations using unarmed local herdsmen as guards. In contrast to the increasingly militarized response to poaching in other areas, the peaceful "community-based conservation development" plan is considered a model for African communities and has resulted in an increase in wildlife populations.

South/Central America: Juan Mayr. Despite working under volatile and dangerous conditions, including death threats, Mayr, a photographer turned journalist, has been successful in forging an environmental alliance between Colombian guerillas, peasants, and the Kogi, a pre-Colombian community. The Fundacion Pro Sierra de Santa Marta works to protect

the world's highest coastal mountain (18,947 feet above sea level) and its microcosm of biological diversity in which arctic, tundra, rainforest, and desert environments are imperiled.

Australia/Oceania: John Sinclair. For 20 years, Sinclair has helped define public interest law in Australia by challenging the government on environmental protection, particularly in regard to Fraser Island, the world's largest sand island, located off the coast of Queensland. Sinclair has succeeded in halting the environmentally damaging practices on the island of sand mining and logging the island's rainforest and in the process has raised public awareness of the island's importance. To date most of the island has been declared a national park, and in 1992 it was designated a World Heritage Site.

Dioxin and Ecological Risk Assessment

An interim report issued by EPA on April 23 states that residues of dioxin in fish from Lake Ontario have decreased over the past decade. Lake Ontario has contained the highest levels of dioxins of all the Great Lakes, but according to Phil Cook of the EPA in Duluth, Minnesota, the trend is the same for all the Great Lakes and most aquatic environments in general. "Lake Superior [dioxin] levels were not detectable in many fish . . . the levels were in the part per trillion range," said Cook. Cook added that dioxin levels in fish depend on factors such as the age and fattiness of the fish, for example, and that the decreasing trend may not be true for all aquatic environments, but that "the trend has definitely been down." The interim report, which evaluates the data on dioxin and the aquatic environment and associated wildlife, is the first step in a long-term program to reassess the ecological risks of dioxin.

Evaluating the risks of dioxin to the environment is one part of EPA's reassess-

ment program. A health risk characterization, resulting from a reevaluation of data on human health and exposure, will be submitted to EPA later this year.

The interim aquatics report focuses on the bioaccumulation of dioxin in the aquatic environment and discusses issues related to risk characterization. Specific findings of the report are:

- For aquatic organisms, the reproductive system is the most sensitive to the effects of dioxin, resulting in early mortality, especially in fish.
- Of nonaquatic wildlife, fish-eating mammals and birds are the most susceptible to the effects of dioxins, but data on these dietary relationships are limited.
- Significant uncertainties remain concerning levels of dioxin in aquatic environments because exposures occur through water, sediment, and diet.

EPA will sponsor an expert panel workshop later this year which will evaluate the data and methods in the interim aquatics report for use in ecological risk assessment. A final report from this workshop, incorporating research now in progress, will be published in 1995.

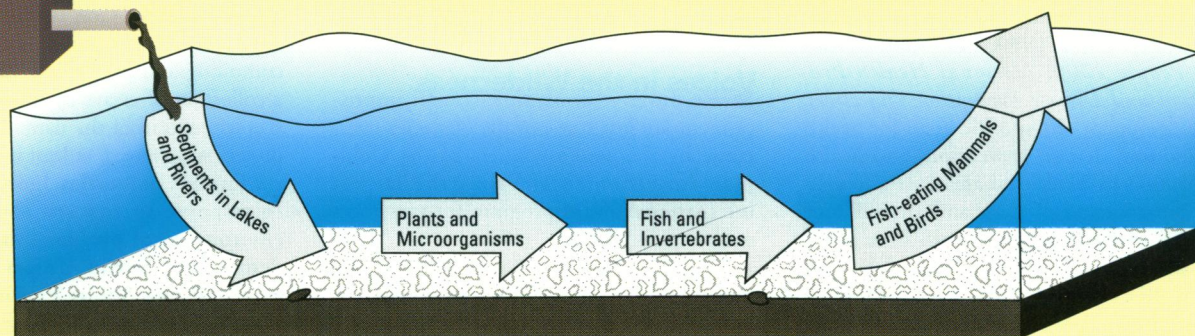
EPA recently used concepts similar to those in the interim aquatics report to formulate criteria for dioxin under the Great Lakes Initiative. The period for public comment on the Great Lakes Initiative proposal closes in mid-September.

Pollution Auction

For sale: Acid rain. Cheap. Contact EPA. The EPA didn't actually advertise its first-ever auction of pollution allowances in this way. Nevertheless, more than 150 bids were made on March 29, amounting to over \$21 million, at the Chicago Board of Trade's auction of the rights to emit sulfur dioxide, the main component of acid rain.

The CBOT held the auction on behalf of the EPA, which is responsible for administering a national market-based pro-

Is dioxin decreasing? The flow of toxic effluent through the aquatic food chain.



gram to curb sulfur dioxide emissions. Utilities, brokerage firms, and even environmentalists purchased the rights, which sold for \$122 to \$450 a ton, to emit 150,010 tons of sulfur dioxide. Industry, environmentalists, and EPA are calling the program an initial success.

The auction was part of a program established under the Clean Air Act Amendments to force power companies to cut sulfur dioxide emissions in half by the year 2000. The program allots pollution allowances to utilities: each allotment allows discharge of one ton of sulfur dioxide a year. Companies may use their allotments to comply with the Clean Air Act standards, or, if they clean up their operations, they can sell their excess allowances. The initial allowances sold at auction had been taken from the utilities by the EPA and were set aside to be sold. EPA will distribute the profits from the auction among the power companies who contributed.

The CBOT has announced plans to hold its own quarterly auctions of pollution rights, which, although not specifically authorized by EPA, are said to be approved of by the agency. Although auction analysts interpret the program's success as a sign of the need for such a market, the development of a market for pollution allowances may well encounter some obstacles. In New York, efforts to restrict allowance trading to minimize acid rain in the Adirondacks prompted the New York General Assembly to approve a bill that would allow the state to restrict pollution trading. It is also unclear how state utility regulatory commissions will be involved in emissions trading. In addition, some sources worry that characterization of the program as "buying the right to pollute" may discourage industry from purchasing allowances out of concern for their public image. Overall, however, the program is expected to reduce the cost of complying with sulfur dioxide emission standards—a savings that could ultimately be passed on to the consumer.

Risk Panel Completed

With the appointment of the two final members of the Risk Assessment and Management Commission, the panel should soon be ready to tackle the task it was given more than two years ago in the 1990 amendments to the Clean Air Act.

Senate Majority Leader George Mitchell (D-Maine) named Norman Anderson, director of Environmental Health for the American Lung Association of Maine, and David P. Rall, former director of the National Institute of Environmental Health Sciences, to the panel which was established under section 303 of the

1990 amendments to study the risk assessment process and advise the government on its use in environmental management.

Mitchell's action comes as the Clinton administration decides whether to replace the Bush appointees to the commission. Some sources have been critical of the Bush appointees for being too conservative, particularly Thorne Auchter, former head of the Occupational Health and Safety Administration. Though the president has the authority to replace the Bush appointees as they "serve at the pleasure of the president" and nothing in the Clean Air Act amendments prevents it, many hope that the new appointees will provide enough balance so that the Clinton administration will not find it necessary to alter the panel, causing further delay.

Rall has a reputation for being well informed and knowledgeable on risk assessment issues and has been influential in setting national environmental health policy. Anderson is well respected and is expected to bring the environmentalist viewpoint to the panel discussions.

Industry Waste Exchange

The Pacific Materials Exchange (PME) is fast proving that one industry's trash may be another's recycled treasure. EPA has extended the grant of this nonprofit corporation to develop and implement a national computerized industrial waste exchange network to encourage pollution prevention.

The National Materials Exchange Network (NMEN), an information clearinghouse that allows companies to publicize information about their waste streams to encourage reuse, electronically links virtually every industrial waste exchange in North America. The grant extension, announced by House Speaker Thomas Foley (D-Washington), will allow PME to continue to build its network and encourage industry to use it. "Using technology to promote and encourage industrial recycling is a practical, cost-effective approach to help protect the environment," says Foley. "We all benefit."

Sponsors of the NMEN say that up to now, waste exchanges have relied on printed materials to communicate information about waste streams. The NMEN allows subscribers to use a computer 24 hours-a-day to access information on materials located across town or across the country. Access to the network is free with participation in an affiliated waste exchange. The network lists materials available and materials needed, such as waste by-product, off-specification, overstock, obsolete, and damaged materials; used and virgin materials; and solid and hazardous wastes.



National Materials Exchange Network

U.S.
1-800-858-6625

Canada
1-509-325-1724

Direct user assistance
1-509-325-0507

It is estimated that industry currently saves \$27 million and the energy equivalent of 100,000 barrels of oil annually by using waste exchange. According to Robert Smee, director of PME, this is only a small portion of the potential savings. There are currently about 5000 materials listed, representing roughly 11 million tons annually. EPA estimates that industry alone generates 7.6 billion tons of solid waste alone each year.

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